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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/005,820	12/04/2001	William C. Schneider	MSC-23178-1	9636
24957	7590	11/29/2004		
NASA JOHNSON SPACE CENTER MAIL CODE HA 2101 NASA RD I HOUSTON, TX 77058			EXAMINER PECHHOLD, ALEXANDRA K	
			ART UNIT 3671	PAPER NUMBER

DATE MAILED: 11/29/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	10/005,820	SCHNEIDER ET AL.
	Examiner Alexandra K Pechhold	Art Unit 3671

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication. Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 16 August 2004.
- 2a) This action is **FINAL**. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) _____ is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) 1-3,5-10,12,13,29,30 and 49 is/are allowed.
- 6) Claim(s) 14,16-22,24-28,31-37 and 44-48 is/are rejected.
- 7) Claim(s) 38-43 is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) Notice of References Cited (PTO-892)
- 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) Notice of Informal Patent Application (PTO-152)
- 6) Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. **Claims 14, 16-22, 24-28, 31, and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Uotila (US 5,310,277) in view of Terio (US 4,780,020).**

Regarding claims 22 and 24, Uotila discloses a method of decelerating a vehicle along a roadway (see Col 3, lines 39 and 41-42) comprising:

- supporting a net, seen as net (1) in Figs. 1, 4, and 5,
- receiving the moving vehicle in the net (Col 1, lines 65-66 and Col 3, lines 41-42),
- deploying a plurality of energy absorbing straps attached to the net, seen as brakes (4, 5) in Figs. 1 and 4-7, which are described by Uotila as discardable fabric brakes formed of one or several ribbons which have been woven or stitched together over a certain length, so that ribbons are forced to be torn apart when pulled (Col 2, lines 40-65).
- decelerating the moving vehicle using these straps (Col 1, lines 58-66),

- limiting the deceleration of the moving vehicle to a level below a predefined maximum deceleration level safe for occupants of the vehicle, which inherently will occur since the resiliency and structural integrity of Uotila's structure will naturally provide a level of deceleration.

Uotila fails to disclose supporting the net with a first sacrificial panel capable of deflecting moving vehicles colliding tangentially therewith, and breaking away the first panel. Terio teaches a vehicle barrier comprised of I-beam posts with cable therebetween to stop a high speed vehicle (see abstract). The barrier employs panels (40), which would not only make the gate more pleasing to look at but would hide the functioning components of the barrier from view to protect the from weather and scrutiny by potential terrorist (Col 5, lines 1-5). It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the method of Uotila to include a first sacrificial panel capable of deflecting moving vehicles colliding tangentially therewith and the step of breaking away the first panel, as taught by Terio, since Terio states in column 5, lines 1-8 that the panels would not only make the gate more pleasing to look at but would hide the functioning components of the barrier from view to protect the from weather and scrutiny by potential terrorist, and such a panel is capable of deflecting moving vehicles colliding tangentially therewith (such as a vehicle traveling at a very slow speed), and inherently with enough speed, the panel would be broken away.

Regarding claim 24, Terio discloses first and second panels sandwiching the net therebetween; two such panels would be employed between each pair of I-beams, one

in front of the cables, on in back, between the cables and webs (2, 3), respectively (Col 5, lines 5-8).

Regarding claims 25 and 26, Uotila fails to disclose anchoring a first row of nets end-to-end alongside a roadway and a second row of nets end-to-end alongside the first row (claim 25), wherein the nets in the first row are staggered relative to the nets in the second row (claim 26). Uotila does state that it is obvious that any number of nets, such as may be considered necessary, can be placed one after the other (Col 3, lines 35-37), the nets designed for greatest possible cover for use in stopping any passenger car that is in motion on the road (Col 4, lines 22-25). Uotila discloses the benefits of a staggered configuration, stating that offsetting nets relative to each other ensures advantageous seizing of the vehicle (Col 3, lines 21-36). It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the staggered nets in Fig. 9 of Uotila to include anchoring a first row of nets end-to-end alongside a roadway and a second row of nets end-to-end alongside the first row, wherein the nets in the first row are staggered relative to the nets in the second row, since Uotila states in column 3, lines 22-37 that it is obvious that any number of nets, such as may be considered necessary, can be placed one after the other, offset relative to each other to ensure advantageous seizing of the vehicle, and Uotila states in column 4, lines 22-25 that the nets are designed for greatest possible cover for use in stopping any passenger car that is in motion on the road.

Regarding claims 27 and 28, Uotila discloses both a non-constant level of deceleration as well as a substantially constant level of deceleration in the action of the

braking members (4, 5). Uotila notes that the first brake members are open, meaning that in conclusion of their operation the first brake members altogether cease to operate, and release their grip. The second brake members become locked in conclusion of their retarding effect, whereby the braking force increases to great height in the end (Col 2, lines 52-61). Therefore, it appears the first breaking members provide a substantially constant level of deceleration, and the second breaking members provide a non-constant level of deceleration since the braking force increases to great height in the end.

Regarding claims 31 and 32, the combination of Uotila and Terio fails to disclose panels made of a thin layer of epoxy, concrete, or plywood, or combinations thereof. Terio fails to specify the material of panels (40). It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the apparatus of Uotila having the panels of Terio so that the panels are made of a thin layer of epoxy, concrete, or plywood, or combinations thereof, since such materials are readily accessible and economical, and commonly used materials for panels.

Regarding claims 14, 16, 17, and 21, Uotila discloses a device for impeding motion of a land vehicle comprising:

- a first barrier, seen as net (1¹) in Fig. 9
- a second barrier, seen as net (1²) in Fig. 9, positioned alongside the first net, the first row being staggered from the second row (Col 3, lines 21-25)
- a plurality of anchors, seen as anchors (3) in Figs. 1 and 4

- each barrier comprising a net, seen as nets (1¹) and (1²) in Fig. 9, and one or more flexible strips arranged to secure the net to the anchors, seen as brakes (4, 5) in Figs. 1 and 4-7, which are described by Uotila as discardable fabric brakes formed of one or several ribbons which have been woven or stitched together over a certain length, so that ribbons are forced to be torn apart when pulled (Col 2, lines 40-65).

Uotila fails to disclose a first sacrificial panel, which includes a smooth surface on one side (as recited in applicant's claim 16) and a second sacrificial panel, the first and second panels sandwiching the net therebetween (as recited in applicant's claim 17). Terio teaches a vehicle barrier comprised of I-beam posts with cable therebetween to stop a high speed vehicle (see abstract). The barrier employs panels (40), which would not only make the gate more pleasing to look at but would hide the functioning components of the barrier from view to protect the from weather and scrutiny by potential terrorist (Col 5, lines 1-5). Two such panels would be employed between each pair of I-beams, one in front of the cables, on in back, between the cables and webs (2, 3), respectively (Col 5, lines 5-8). It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the barrier of Uotila to include first and second sacrificial panels sandwiching the net therebetween as taught by Terio, since Terio states in column 5, lines 1-8 that the panels would not only make the gate more pleasing to look at but would hide the functioning components of the barrier from view to protect the from weather and scrutiny by potential terrorist, and two such panels would be employed, one in front of the cables, on in back.

Uotila also fails to disclose a first row of barriers and second row of barriers positioned end-to-end (as recited in applicant's claim 14), with each barrier having a male portion and corresponding female portion of a mated joint (as recited in applicant's claim 21). Yet Uotila notes that it is obvious that any number of nets, such as may be considered necessary, can be placed one after the other (Col 3, lines 35-37). The nets are designed for greatest possible cover for use in stopping any passenger car that is in motion on the road (Col 4, lines 22-25). It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the staggered nets in Fig. 9 of Uotila so there is a row of first and second barriers positioned end-to-end, and each barrier having corresponding male and female portions of a mated joint, since Uotila states in column 3, lines 35-37 that it is obvious that any number of nets, such as may be considered necessary, can be placed one after the other, and in column 4, lines 22-25 that the nets are designed for greatest possible cover for use in stopping any passenger car that is in motion on the road. So therefore if you have multiple side-by-side cars approaching the net, a row of barriers would be the logical solution in order to satisfy Uotila's desire for the greatest possible cover for use in stopping any passenger car that is in motion on the road, and clearly the barriers would have to be joined by some sort of mated joint.

Regarding claims 18 and 19, Uotila discloses both a non-constant level of deceleration as well as a substantially constant level of deceleration in the action of the braking members (4, 5). Uotila notes that the first brake members are open, meaning that in conclusion of their operation the first brake members altogether cease to

operate, and release their grip. The second brake members become locked in conclusion of their retarding effect, whereby the braking force increases to great height in the end (Col 2, lines 52-61). Therefore, it appears the first breaking members provide a substantially constant level of deceleration, and the second breaking members provide a non-constant level of deceleration since the braking force increases to great height in the end.

Regarding claim 20, Uotila illustrates a plurality of support members mounted alongside the barriers, seen as posts (6) in Figs. 1 and 4.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. **Claims 33-37 and 44-48 are rejected under 35 U.S.C. 102(b) as being anticipated by Uotila (US 5,310,277).**

Regarding claims 33, 36, and 44, Uotila discloses a barrier comprising:

- a receiving means (claim 33) or means for receiving and retaining the moving body (claims 36 and 44), seen as net (1) in Figs. 1, 4, and 5
- anchoring means (claim 33) or means for anchoring the receiving and retaining means (claim 36), seen as anchors (3) in Figs. 1 and 4,

- and means for decelerating the moving body in a controlled manner comprising at least one flexible, energy absorbing strap connected intermediate the receiving means and the anchoring means seen as brakes (4) in Figs. 1 and 4, capable of receiving forces exerted longitudinally along the length thereof, the brakes (4) being described by Uotila as discardable fabric brakes formed of one or several ribbons which have been woven or stitched together over a certain length, so that ribbons are forced to be torn apart when pulled (Col 2, lines 40-65).

Inherently, the deceleration will be controlled to limit the deceleration thereof to below a predefined maximum deceleration level, since the moving body encounters the effects of the receiving means, anchoring means, and means for decelerating the moving body. Also, the tensile strength of the stitches must be less than that of the strap, since Uotila states that the ribbons which are stitched together over a certain length are forced to be torn apart (Col 4, lines 40-51).

Regarding claims 34 and 35, inherently the stitches in the brake members of Uotila will be ripped apart sequentially (Col 2, lines 40-65) due to the nature of the tearing action. And likewise, the stitches extending longitudinally along adjacent lengths of strap, since Uotila states that two ribbons have been woven or stitched together over a certain length (Col 4, lines 43-45).

Regarding claim 37, inherently the load capacity of the brake members of Uotila is the sum of the energy absorbing stroke of each stitch (Col 4, lines 43-45).

Regarding claim 45, Uotila discloses that the brake member may for instance be composed in that two ribbons have been woven or stitched together over a certain length (Col 4, lines 42-45), which would result in adjacent pairs of loops being interconnected by intermediate portions of the strap. Pulling on the draw members will produce in the brake member a uniform braking force opposing the pull so that the ribbons are forced to be torn apart (Col 4, lines 46-49).

Regarding claim 46, the brakes (4) are located between the net and anchor, and connected to the anchor as shown in Figs. 1 and 4.

Regarding claim 47, the brakes (4) have a plurality of loops formed therein (Col 2, lines 40-51) and is connected to the net as shown in Fig. 1.

Regarding claim 48, the brake (4) is connected between the anchor and net.

Allowable Subject Matter

5. Claims 38-43 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.
6. Claims 1-3, 5-10, 12, 13, 29, 30, and 49 are allowed.

Response to Arguments

7. Applicant's arguments filed 8/16/04, with respect to claims 1, 5, 10 have been fully considered and are persuasive. The rejection of these claims has been withdrawn, and their allowability, along with their respective dependent claims, indicated above.
8. Applicant's arguments filed 8/16/04 pertaining to other claims have been fully considered but they are not persuasive. The Examiner addresses these arguments as follows:

With respect to claim 14, the applicant states it should be allowable for the same reasons as amended claim 1. But amended claim 1 recites the panel as having "means for holding up the net in a vertical position". Claim 1 recites an actual, structural means of holding up the net, just like amended claim 10. Yet claim 14 merely recites a panel "adapted to hold up the net in a vertical position". The panel of Terio is capable of being adapted to hold up the net of Uotila, and hence, the Examiner is rejecting this claim.

With respect to claim 22 as amended, applicant argues that the claim is distinguished in its recitation of a first sacrificial panel that is also capable of deflecting moving vehicles colliding tangentially therewith. The panel of Terio is certainly capable of deflecting moving vehicles colliding tangentially therewith, particularly if the vehicle is traveling at a very slow speed.

With respect to claim 33, applicant argues that the claim now distinguishes, since the strap is the same strap which is folded upon itself to form at least one loop of mutually adjacent, doubled lengths of straps. The brakes (4) of Uotila, connected

between the net and anchors, still meet the claimed recitations, since the brake is made up of material folded upon itself.

With respect to amended claim 36, applicant has amended to claim, but the recitations are still disclosed by Uotila. Uotila states in column 2, lines 40-51 that the brakes are formed of one or several ribbons that are woven or stitched together over a certain length. Inherently then, between the ribbons that are stitched together remains an unstitched portion of strap.

Regarding claims 44 and 45, the arguments above with respect to claims 33 and 36 apply. Newly added claims 46-48 are addressed in the claim rejections above.

Conclusion

9. THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alexandra Pechhold whose telephone number is (703) 305-0870. The examiner can normally be reached on Mon-Thurs. from 8:00am to 5:30pm and alternating Fridays from 8:00am to 4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas B. Will, can be reached on (703)308-3870. The fax phone number for this Group is (703) 305-3597.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-1113.



Thomas B. Will
Supervisory Patent Examiner
Group 3600

AKP
11/22/04